

Now whilst Bodies become coloured by reflecting or transmitting this or that sort of rays more copiously than the rest, it is to be conceived that they stop and stifle in themselves the rays which they do not reflect or transmit. For if Gold be foliated and held between your Eye and the Light, the Light looks blue, and therefore massy Gold lets into its Body the blue-making rays to be reflected to and fro within it till they be stopt and stifled, whilst it reflects the yellow-making outwards, and thereby looks yellow. And much after the same manner that Leaf-gold is yellow by reflected, and blue by transmitted Light, and massy Gold is yellow in all positions of the Eye; there are some Liquors as the tincture of *Lignum Nephriticum*, and some sorts of Glass which transmit one sort of Light most copiously, and reflect another sort, and thereby look of several Colours, according to the position of the Eye to the Light. But if these Liquors or Glasses were so thick and massy that no Light could get through them, I question not but that they would like all other opaque Bodies appear of one and the same Colour in all positions of the Eye, though this I cannot yet affirm by experience. For all coloured Bodies, so far as my Observation reaches, may be seen through if made sufficiently thin, and therefore are in some measure transparent, and differ only in degrees of transparency from tinged transparent Liquors; these Liquors, as well as those Bodies, by a sufficient thickness becoming opaque. A transparent Body which looks of any Colour by transmitted Light, may also look of the same Colour by reflected Light, the Light of that Colour being reflected by the further surface of the Body, or by the Air beyond it. And then the reflected Colour will be diminished, and perhaps cease, by making

making the Body very thick, and pitching it on the back-side to diminish the reflexion of its further surface, so that the Light reflected from the tinging particles may predominate. In such cases, the Colour of the reflected Light will be apt to vary from that of the Light transmitted. But whence it is that tinged Bodies and Liquors reflect some sort of rays, and intromit or transmit other sorts, shall be said in the next Book. In this Proposition I content my self to have put it past dispute, that Bodies have such Properties, and thence appear coloured.

PROP. XI. PROB. VI.

By mixing coloured Lights to compound a Beam of Light of the same Colour and Nature with a Beam of the Sun's direct Light, and therein to experience the truth of the foregoing Propositions.

Let ABCabc represent a Prism by which the Sun's Light let into a dark Chamber through the Hole F, may be refracted towards the Lens MN, and paint upon it at p, q, r, s and t, the usual Colours violet, blue, green, yellow and red, and let the diverging rays by the refraction of this Lens converge again towards X, and thereby the mixture of all those their Colours, compound a white according to what was shewn above. Then let another Prism DEGdeg, parallel to the former, be placed at X, to refract that white Light upwards towards Y. Let the refracting Angles of the Prisms, and their distances from the Lens be equal, so that the rays which converged from the Lens towards X, and without refraction, would there have crossed and diverged again, may by the refraction of the second Prism be reduced.